

The screenshot shows the homepage of the Journals on the Web website. At the top, there is a navigation bar with links for "JOURNALS", "Methods and Findings", "Information", "My Profile", and "Contact Us". Below the navigation bar, there is a search bar with the placeholder "Quick Search" and a dropdown menu set to "in all journals". To the right of the search bar is a "GO" button. Further to the right is a "Structure Search" link. Below the search bar, there is a horizontal menu with links for "Prous.com", "Journals Home", "Methods and Findings on the Web", "Methods and Findings Information", "My Profile", and "Contact Us". On the right side of the page, there is a "Register or sign in" form with fields for "User Name" and "Password", and a "LOG IN" button. Below the registration form is a small image of a journal cover with the title "Methods and Findings". At the bottom of the page, there is a link "Alert me to new issues".

Methods and Findings

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Effect of different doses of S-adenosyl-L-methionine on paracetamol hepatotoxicity in a mouse model

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This study investigated the hepatoprotective effects of N-acetylcysteine and different doses of S-adenosyl-L-methionine after a single intraperitoneal overdose of paracetamol in mice. Plasma concentrations of paracetamol metabolites were also determined. Female mice (Souris OF1 strain) 16 weeks old and weighing 30 g were fasted for 18 h prior to intraperitoneal (i.p.) administration of 375 mg/kg (2.5 mmol/kg) of paracetamol. Experimental subgroups included mice administered paracetamol only (control group), those given of N-acetylcysteine 1 g/kg (6.13 mmol/kg) i.p. immediately after paracetamol overdose (T0) and 6 h after dosing (T6) and those administered S-adenosyl-L-methionine at doses of 20 mg/kg (0.05 mmol/kg) and 1 g/kg (2.5 mmol/kg) i.p. at T0 and T6. Twenty-four hours after paracetamol overdose, mortality and liver necrosis were significantly lower ($p < 0.01$) in mice treated with 2.5 mmol/kg of S-adenosyl-L-methionine and N-acetylcysteine at T0 as compared with the remaining subgroups. Plasma ALT concentrations were significantly lower ($p < 0.01$) in mice treated with 2.5 mmol/kg of S-adenosyl-L-methionine than in those given N-acetylcysteine. Plasma concentrations of paracetamol metabolites showed an increase in the glucuronide conjugate and a decrease in the mercapturic acid conjugate in N-acetylcysteine-treated mice and an overall decrease in the conjugation pathway without changes in the oxidative pathway in S-adenosyl-L-methionine-treated animals. We conclude that S-adenosyl-L-methionine at doses of 1 g/kg (2.5 mmol/kg) i.p. was equally effective as 1 g/kg (6.13 mmol/kg) N-acetylcysteine for preventing hepatotoxicity after paracetamol overdose in mice. S-adenosyl-L-methionine may be a therapeutic alternative to N-acetylcysteine as an antidote for poisoning with paracetamol.

Full Text: HTML, PDF